Self-diagnosis LED indicator blinks twice.

Disconnect the 26P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A4 (GRN/BLK) and A25 (BLK/RED) terminals.

Is there voltage? YES → **Repair short to power source in GRN/BLK wire between the A4 terminal and the lock-up control solenoid valve B.**

NO

Turn the ignition switch OFF.

Measure the resistance between the A4 (GRN/BLK) and A25 (BLK/RED) terminals.

Is the resistance 12—24 Ω? NO → **Check for open in GRN/BLK wire between the A4 terminal and the lock-up control solenoid valve B. If wire is OK, check the Lock-Up Control Solenoid Valve B.**

YES

Disconnect the 2P connector from the lock-up control solenoid valve assembly.

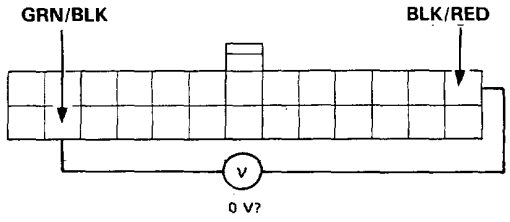
Check for continuity between the A4 (GRN/BLK) and A25 (BLK/RED) terminals.

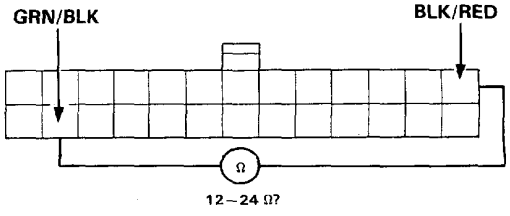
Is there continuity? YES → **Repair short to ground in GRN/BLK wire between the A4 terminal and the lock-up control solenoid valve B.**

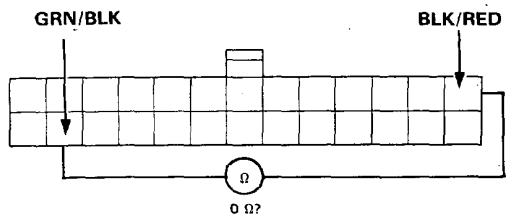
NO

Connect the 2P connector to the lock-up control solenoid valve assembly.

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.







(cont'd)

Troubleshooting Flowchart (cont'd)

Self-diagnosis LED indicator blinks three times.

Turn the ignition switch ON.

Check whether the PGM-FI LED display blinks (Section 6).

Does the LED blink? — YES → **Repair the PGM-FI System.**

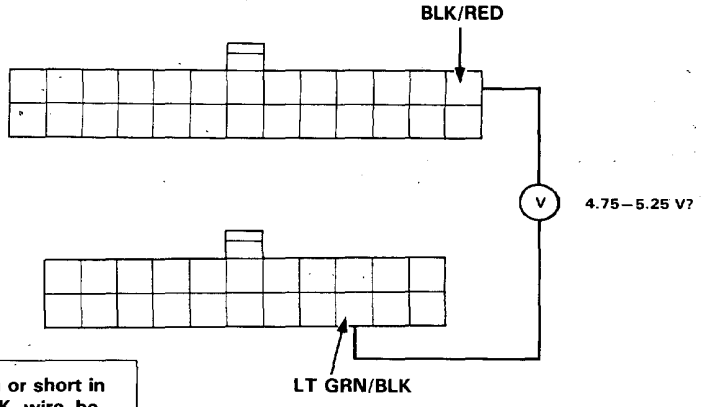
NO

Turn the ignition switch OFF.

Disconnect the 26P and 22P connectors from the control unit.

Turn the ignition switch ON.

Measure the voltage between the D18 (LT GRN/BLK) and A25 (BLK/RED) terminals.

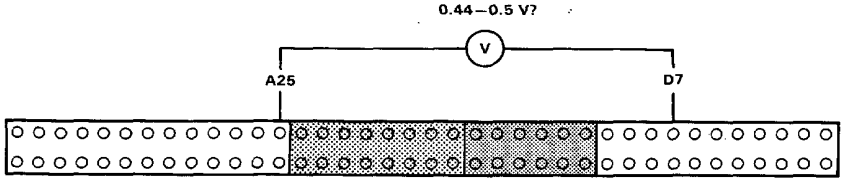


Is the voltage 4.75–5.25 V? — NO → **Repair open or short in LT GRN/BLK wire between the D18 terminal and the D14 terminal of the PGM-FI ECU.**

YES

Turn the ignition switch OFF.

Connect the ECU test harness between the connectors and the control unit.



Turn the ignition switch ON.

Measure the voltage between the D7 and A25 terminals.

Is the voltage 0.44–0.56 V?* — NO → **Repair open or short in RED/BLK wire between the D7 terminal and the throttle angle sensor.**

YES

* ± 10%

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

Self-diagnosis LED indicator blinks four times.

Jack up the front of the car and block one wheel.

Shift transmission to [N].

Disconnect the 26P and 22P connectors from the control unit.

Turn the ignition switch ON.

Rotate the front wheel and check for voltage between the A25 (BLK/RED) and D9 (ORN) terminals.

Does the voltage 0—5 V appear alternately?

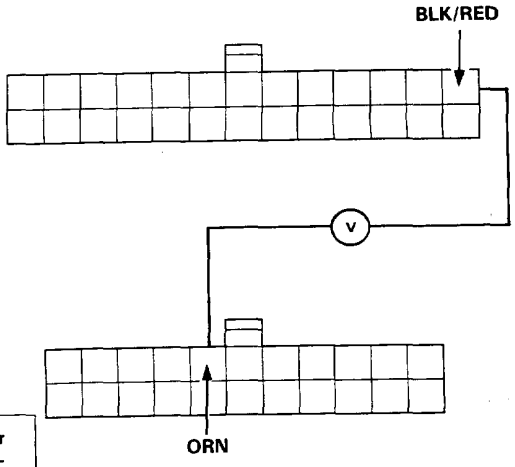
NO → **Check for short or open in ORN wire between the D9 terminal and the Speed Sensor. If wire is OK, check the Speed Sensor.**

YES

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

⚠ WARNING

- **Set the parking brake securely and block the rear wheels.**
- **Jack up the front of the car and support with a rigid rack.**



(cont'd)

Troubleshooting Flowchart (cont'd)

Self-diagnosis LED indicator blinks five times.

Turn the ignition switch ON.

Observe the A/T shift indicator and select each position separately.

Does the indicator light properly? NO → **See A/T shift position indicator inspection (Section 16).**

YES

Turn the ignition switch OFF.

Connect the ECU test harness between the control unit and connectors.

Turn the ignition switch ON.

Shift to other than [R] position.

Measure the voltage between the A21 (GRN/RED) and A25 (BLK/RED) terminals.

Is there battery voltage? NO → **Check for short in GRN/RED wire between the A21 terminal and the shift position console switch. If wire is OK, check for loose connectors. If necessary, substitute a known-good control unit and recheck.**

YES

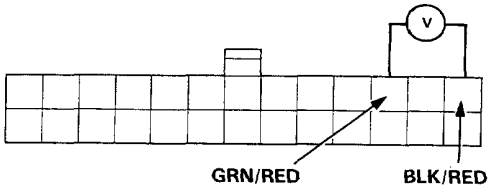
Shift to other than [N] and [P] position.

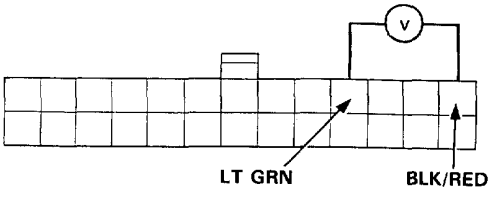
Measure the voltage between the A19 (LT GRN) and A25 (BLK/RED) terminals.

Is there battery voltage? NO → **Check for short in LT GRN wire between the A19 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.**

YES

To page 9-35





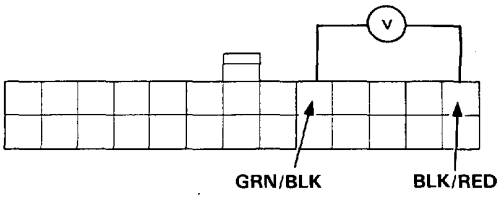
From page 9-34

Shift to other than D4 position.

Measure the voltage between the A17 (GRN/BLK) and A25 (BLK/RED) terminals.

Is there battery voltage?

NO → **Check for short in GRN/BLK wire between the A17 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.**



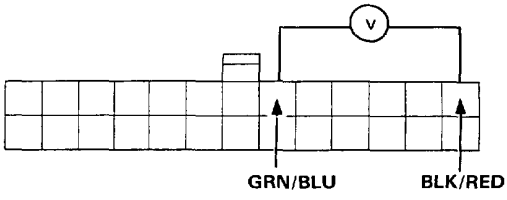
YES

Shift to other than D3 position.

Measure the voltage between the A15 (GRN/BLU) and A25 (BLK/RED) terminals.

Is there battery voltage?

NO → **Check for short in GRN/BLU wire between the A15 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.**



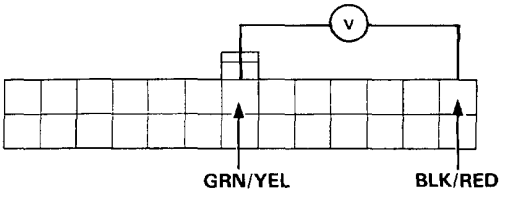
YES

Shift to other than 2 position.

Measure the voltage between the A13 (GRN/YEL) and A25 (BLK/RED) terminals.

Is there battery voltage?

NO → **Check for short in GRN/YEL wire between the A13 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.**



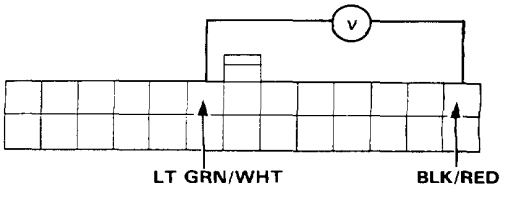
YES

Shift to other than 1 position.

Measure the voltage between the A11 (LT GRN/WHT) and A25 (BLK/RED) terminals.

Is there battery voltage?

NO → **Check for short in LT GRN/WHT wire between the A11 terminal and shift position console switch or shift position indicator. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.**



YES

Substitute a known-good control unit and recheck.

(cont'd)

Troubleshooting Flowchart (cont'd)

Self-diagnosis LED indicator blinks six times.

Turn the ignition switch ON.

Observe the A/T shift indicator and select each position separately.

Does the indicator light properly? — NO → **See A/T shift position indicator.**

YES

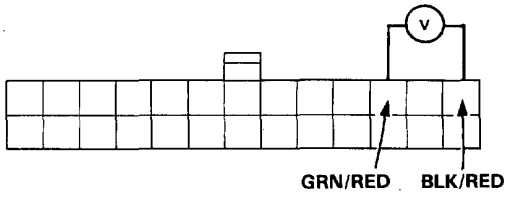
Turn the ignition switch OFF.

Connect the ECU test harness between the control unit and connectors.

Turn the ignition switch ON.

Shift to [R] position.

Measure the voltage between the A21 (GRN/RED) and A25 (BLK/RED) terminals.

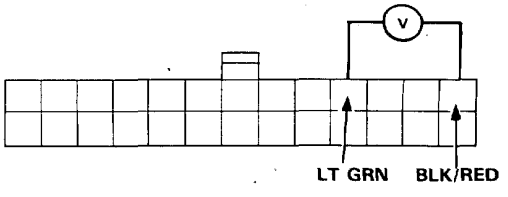


Is there voltage? — YES → **Repair open in GRN/RED wire between the A21 terminal and the shift position console switch.**

NO

Shift to [N] or [P] position.

Measure the voltage between the A19 (LT GRN) and A25 (BLK/RED) terminals.



Is there voltage? — YES → **Repair open in LT GRN wire between the A19 terminal and the shift position console switch.**

NO

To page 9-37

From page 9-36

Shift to D4 position.

Measure the voltage between the A17 (GRN/BLK) and A25 (BLK/RED) terminals.

Is there voltage?

YES → **Repair open in GRN/BLK wire between the A17 terminal and the shift position console switch.**

NO

Shift to D3 position.

Measure the voltage between the A15 (GRN/BLU) and A25 (BLK/RED) terminals.

Is there voltage?

YES → **Repair open in GRN/BLU wire between the A15 terminal and the shift position console switch.**

NO

Shift to 2 position.

Measure the voltage between the A13 (GRN/YEL) and A25 (BLK/RED) terminals.

Is there voltage?

YES → **Repair open in GRN/YEL wire between the A13 terminal and the shift position console switch.**

NO

Shift to 1 position.

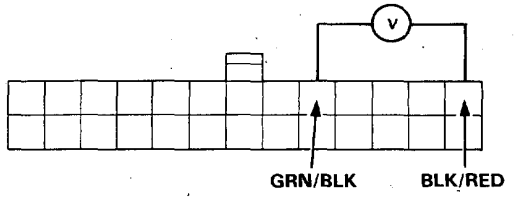
Measure the voltage between the A11 (LT GRN/WHT) and A25 (BLK/RED) terminals.

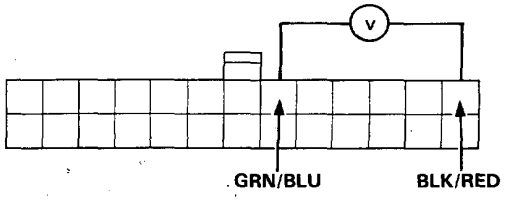
Is there voltage?

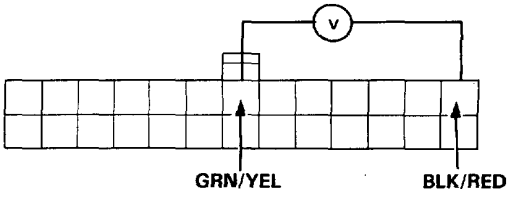
YES → **Repair open in LT GRN/WHT wire between the A11 terminal and the shift position console switch.**

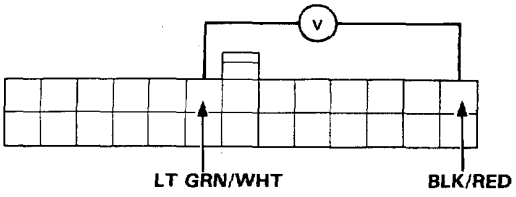
NO

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.









(cont'd)

Troubleshooting Flowchart (cont'd)

Self-diagnosis LED indicator blinks seven times.

Disconnect the 26P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A5 (BLU/YEL) and A25 (BLK/RED) terminals.

Is there voltage? YES → **Repair short to power source in BLU/YEL wire between the A5 terminal and the shift control solenoid valve A.**

NO

Turn the ignition switch OFF.

Measure the resistance between the A5 (BLU/YEL) and A25 (BLK/RED) terminals.

Is the resistance 12—24 Ω? NO → **Check for open in BLU/YEL wire between the A5 terminal and the shift control solenoid valve A. If wire is OK, check the Shift Control Solenoid Valve A.**

YES

Disconnect the 2P connector from the shift control solenoid valve assembly.

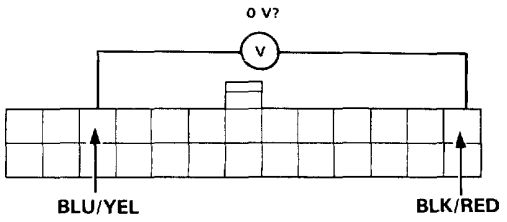
Check for continuity between the A5 (BLU/YEL) and A25 (BLK/RED) terminals.

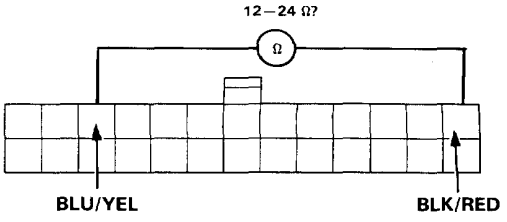
Is there continuity? YES → **Repair short to ground in BLU/YEL wire between the A5 terminal and the shift control solenoid valve A.**

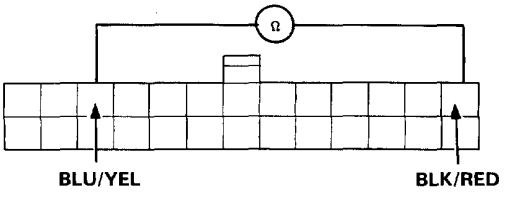
NO

Connect the 2P connector to the shift control solenoid valve assembly.

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.







Self-diagnosis LED indicator blinks eight times.

Disconnect the 26P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A3 (GRN/WHT) and A25 (BLK/RED)terminals.

Is there voltage? YES → **Repair short to power source in GRN/WHT wire between the A3 terminal and shift control solenoid valve B.**

NO

Turn the ignition switch OFF.

Measure the resistance between the A3 (GRN/WHT) and A25 (BLK/RED) terminals.

Is the *resistance* 12 – 24 Ω? NO → **Check for open in GRN/WHT wire between the A3 terminal and the shift control solenoid valve B. If wire is OK, check the Shift Control Solenoid Valve B.**

YES

Disconnect the 2P connector from the shift control solenoid valve assembly.

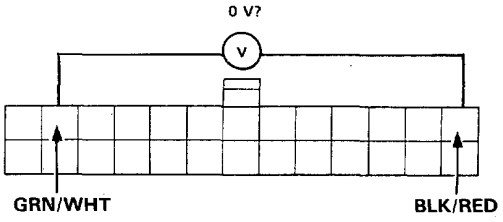
Check for continuity between the A3 (GRN/WHT) and A25 (BLK/RED) terminals.

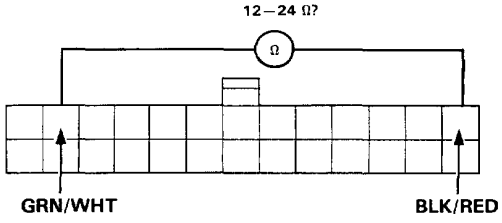
Is there continuity? YES → **Repair short to ground in GRN/WHT wire between the A3 terminal and the shift control solenoid valve B.**

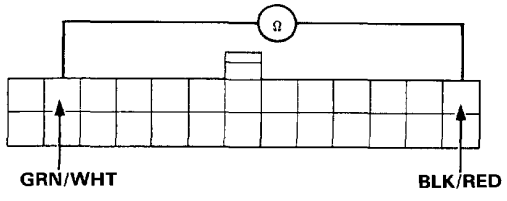
NO

Connect the 2P connector to the shift control solenoid valve assembly.

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.







(cont'd)

Troubleshooting Flowchart (cont'd)

Self-diagnosis LED indicator blinks nine times.

Check the state of installation of the NC SPEED SENSOR.

OK? — NO → **Reinstall and recheck.**

YES

Disconnect the 2P connector from the NC speed sensor coupler.

Measure the resistance of the NC speed sensor.

Is the resistance 400—600 ohms? (20°C) — NO → **Replace the NC speed sensor.**

YES

Reconnect the NC speed sensor.

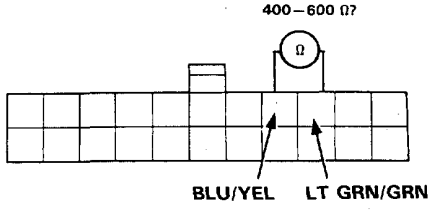
Disconnect the 22P coupler from the control unit.

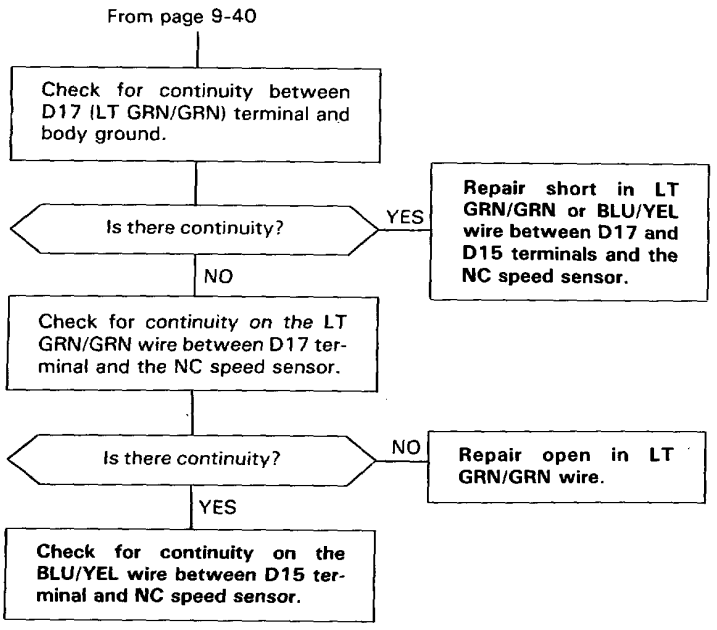
Measure the resistance between D17 (LT GRN/GRN) and D15 (BLU/YEL).

Is the resistance 400—600 ohms? (20°C) — NO → To page 9-41

YES

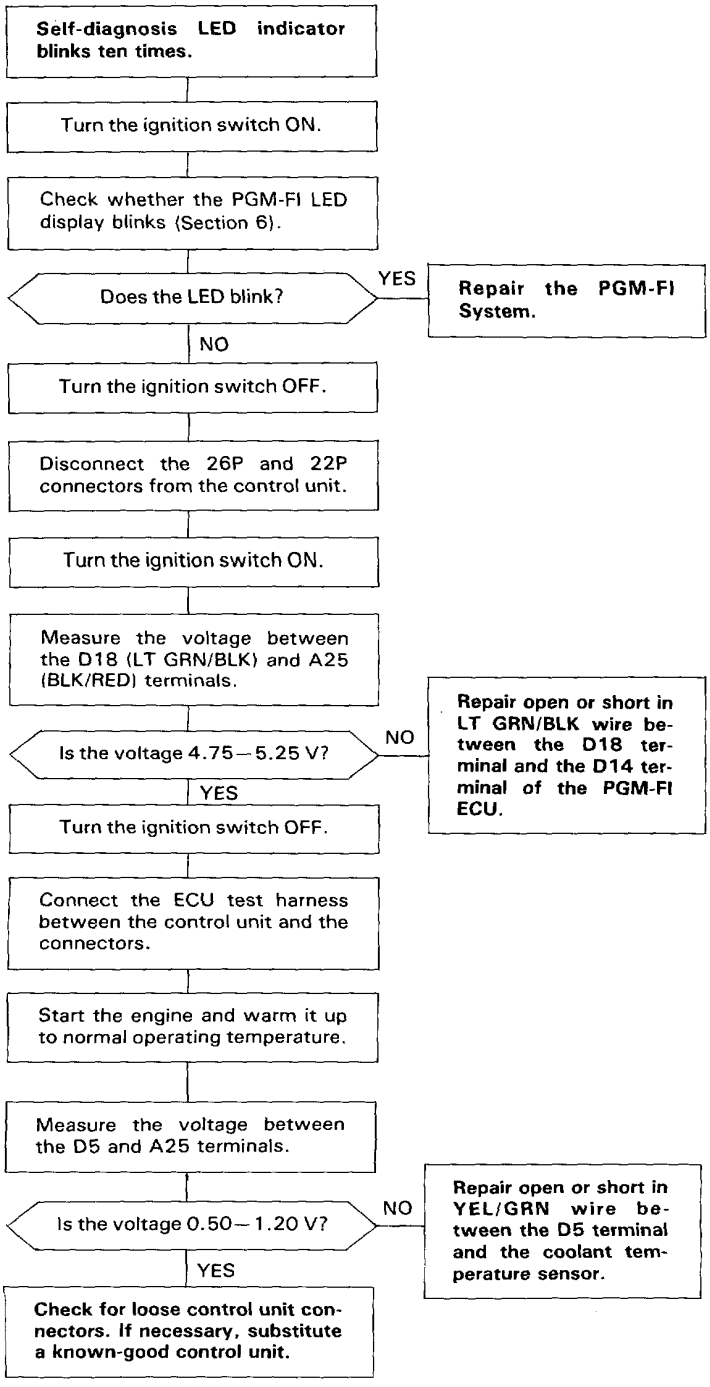
Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

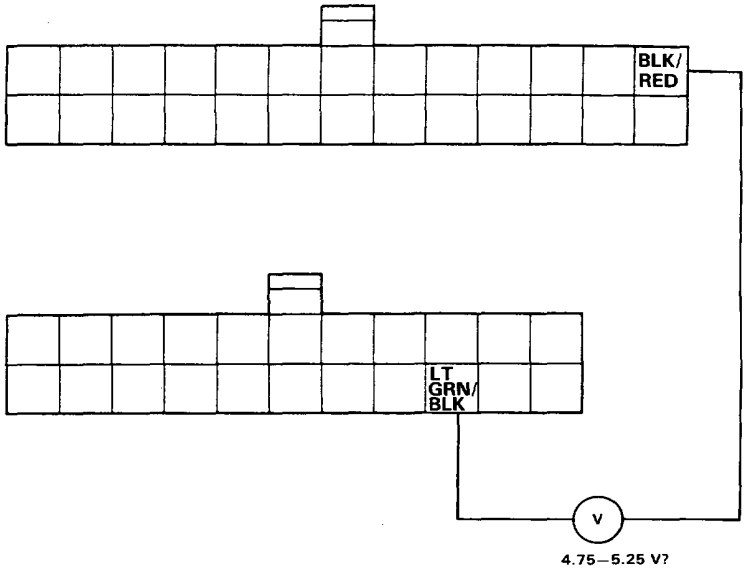


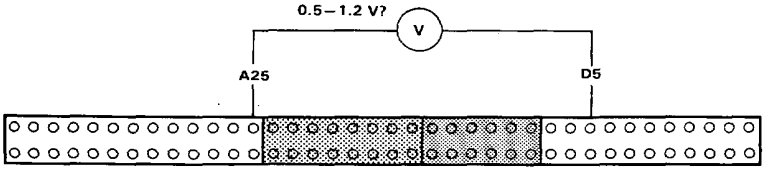

From page 9-40
Check for continuity between D17 (LT GRN/GRN) terminal and body ground.
Is there continuity?
YES
Repair short in LT GRN/GRN or BLU/YEL wire between D17 and D15 terminals and the NC speed sensor.
NO
Check for continuity on the LT GRN/GRN wire between D17 terminal and the NC speed sensor.
Is there continuity?
NO
Repair open in LT GRN/GRN wire.
YES
Check for continuity on the BLU/YEL wire between D15 terminal and NC speed sensor.

(cont'd)

Troubleshooting Flowchart (cont'd)







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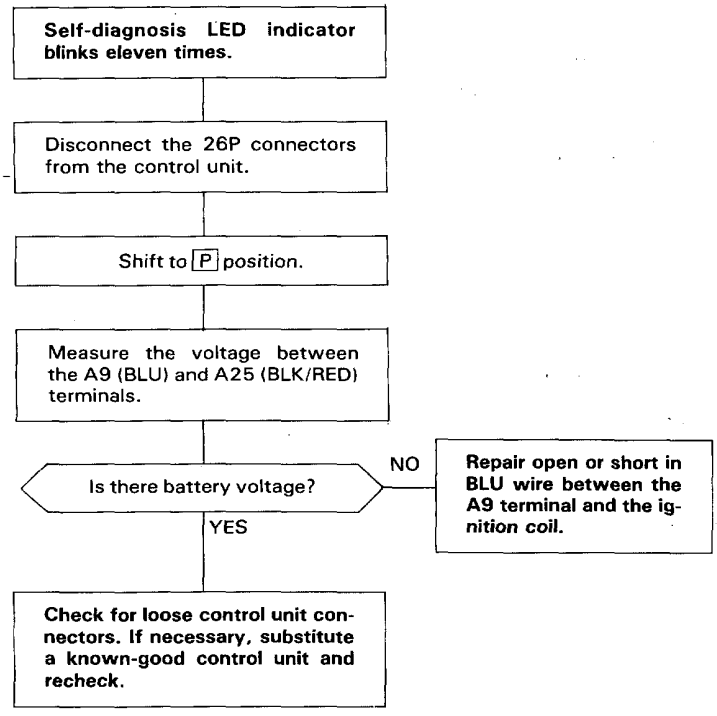
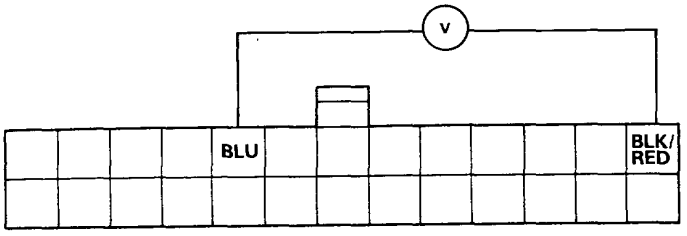
Troubleshooting Flowchart (cont'd)





(cont'd)

Troubleshooting Flowchart (cont'd)

Self-diagnosis LED indicator blinks fourteen times.

Start the engine and warm it up to normal operating temperature.

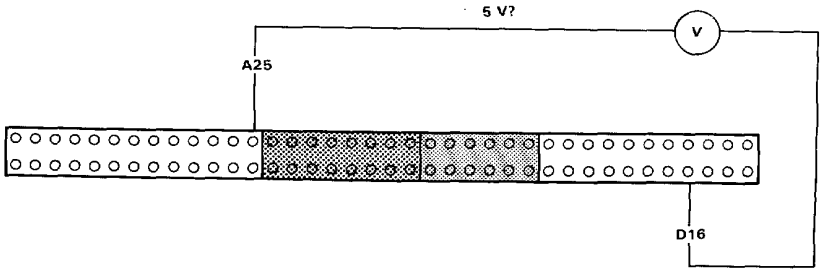
Shift to [P] position.

Turn the ignition switch OFF.

Connect the ECU test harness between the control unit and connectors.

Turn the ignition switch ON and wait for at least two seconds.

Using an analog voltmeter, measure the voltage between the D16 (+) and A25 (−) terminals.



Is there approx. 5 V for over five seconds?

NO → Does the meter jerk from 0 V to 4 V approx. every four seconds?

YES → **Refer to PGM-FI A/T Signal (Section 6).**

NO → Is the Check Engine warning light on?

YES → **Repair the PGM-FI System (Section 6).**

NO → Turn the ignition switch OFF.

Disconnect the A connector from the PGM-FI ECU.

To page 9-47

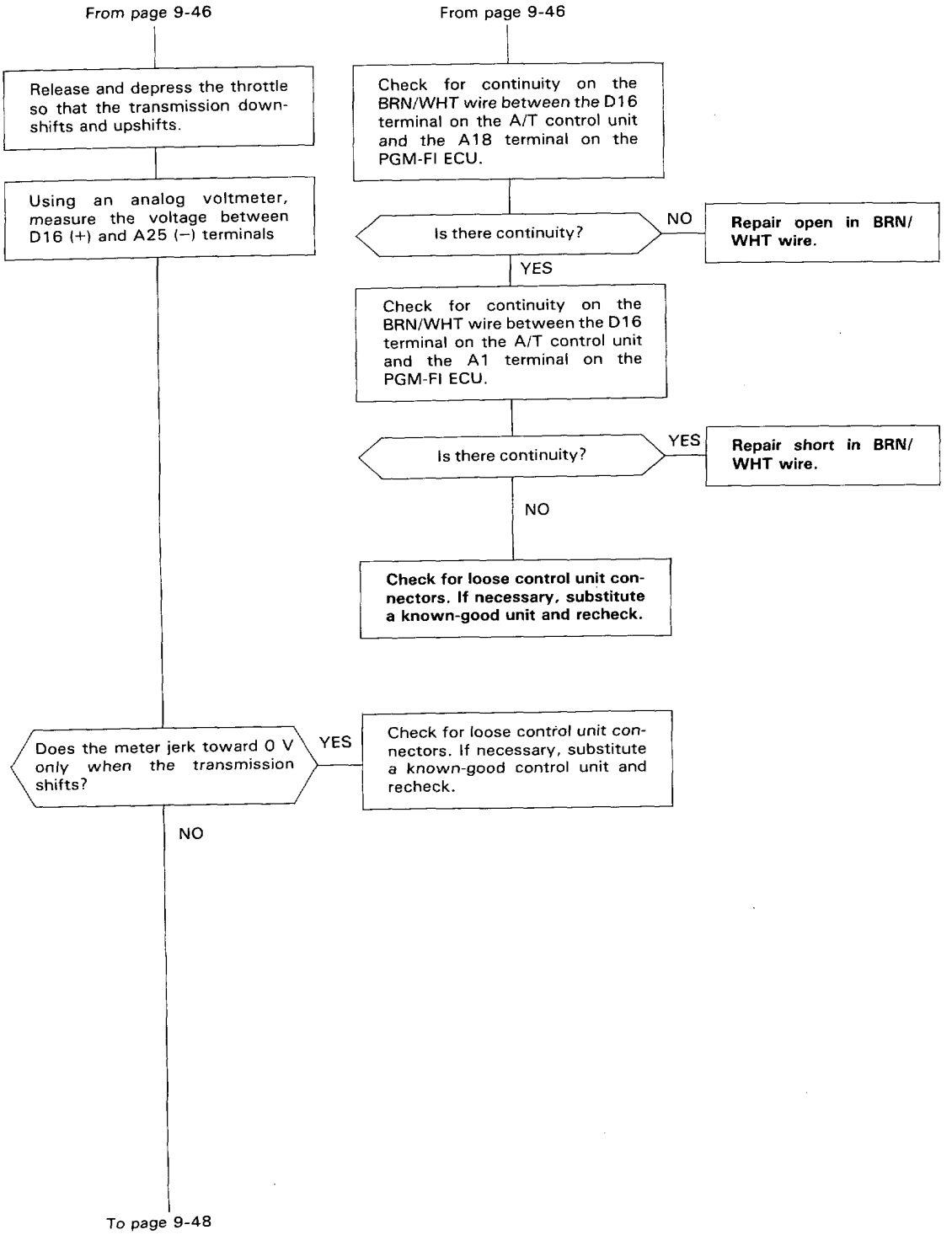
YES → Jack up the front of the car.

Start the engine.

Shift to [D4] position.

Raise the engine to over 2,000 min^{-1} (rpm) (over 40 mph in 4th gear) for five seconds.

To page 9-47


From page 9-46
Release and depress the throttle so that the transmission downshifts and upshifts.
Using an analog voltmeter, measure the voltage between D16 (+) and A25 (–) terminals
Does the meter jerk toward 0 V only when the transmission shifts?
YES
Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.
NO
To page 9-48
From page 9-46
Check for continuity on the BRN/WHT wire between the D16 terminal on the A/T control unit and the A18 terminal on the PGM-FI ECU.
Is there continuity?
NO
Repair open in BRN/WHT wire.
YES
Check for continuity on the BRN/WHT wire between the D16 terminal on the A/T control unit and the A1 terminal on the PGM-FI ECU.
Is there continuity?
YES
Repair short in BRN/WHT wire.
NO
Check for loose control unit connectors. If necessary, substitute a known-good unit and recheck.

(cont'd)

Troubleshooting Flowchart (cont'd)

From page 9-47

Apply the brake and shift to [P] position.

Turn the ignition switch OFF.

Disconnect the A connector from the PGM-FI ECU.

Check for continuity on the BRN/WHT wire between the D16 terminal on the A/T control unit and the A18 terminal on the PGM-FI ECU.

Is there continuity?

NO → **Repair open in BRN/WHT wire.**

YES

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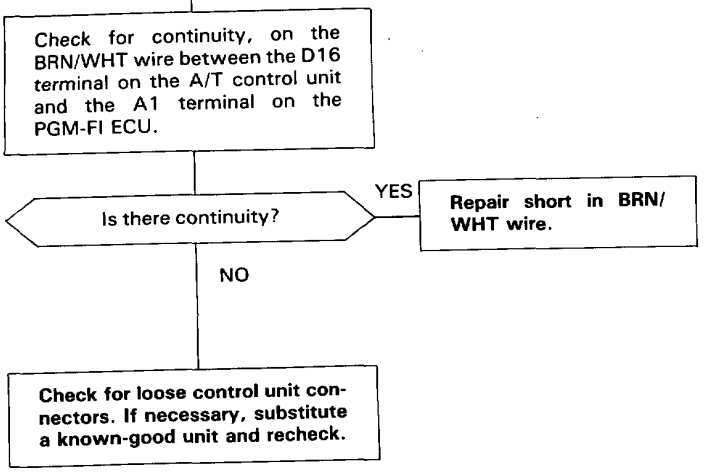
From page 9-48



(cont'd)

Troubleshooting Flowchart (cont'd)

Self-diagnosis LED indicator blinks fifteen times.

Check the state of installation of NM (NC) speed sensor.

OK? — NO → **Reinstall and recheck.**

YES

Disconnect the 2P connector from the NM speed sensor.

Measure the resistance of the NM speed sensor.

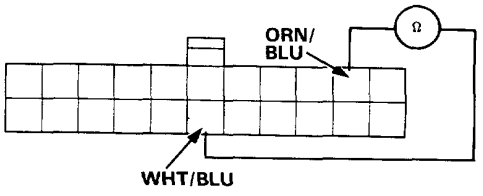
Is the resistance 400–600 ohms? — NO → **Replace the NM speed sensor.**

YES

Reconnect the 2P connector to the NM speed sensor.

Disconnect the 22P connector from the control unit.

Measure the resistance between D19 (ORN/BLU) and D12 (WHT/BLU) terminals.



Is the resistance 400–600 ohms? (20°C) — NO → Check for continuity between D19 (ORN/BLU) terminal and body ground.

YES

Disconnect the 2P connector from the NC speed sensor.

Measure the resistance of the NC speed sensor.

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Is there continuity? — YES → **Repair short in ORN/BLU or WHT/BLU wires between D19 and D12 terminals and the NM speed sensor.**

NO

Check for continuity between D19 (ORN/BLU) terminal and the NM speed sensor.

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Is there continuity?

NO

Repair open in ORN/BLU wire between D19 terminal and the NM speed sensor.

YES

Check for continuity between D12 (WHT/BLU) terminal and the NM speed sensor.

Is there continuity?

NO

Repair open in WHT/BLU wire between D12 terminal and the NM speed sensor.

YES

Check for loose control unit connectors. If necessary, substitute a known-good unit and recheck.

Is the resistance 400—600 ohms? (20°C)

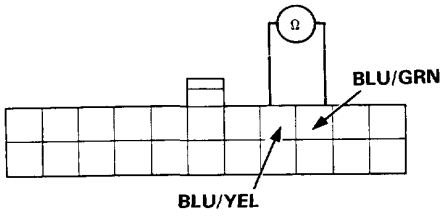
NO

Replace the NC speed sensor.

YES

Reconnect the 2P connector to the NC speed sensor.

Measure the resistance between D17 (BLU/ORN) and D15 (BLU/YEL) terminals.



Is the resistance 400—600 ohms? (20°C)

YES

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

NO

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(cont'd)

Troubleshooting Flowchart (cont'd)

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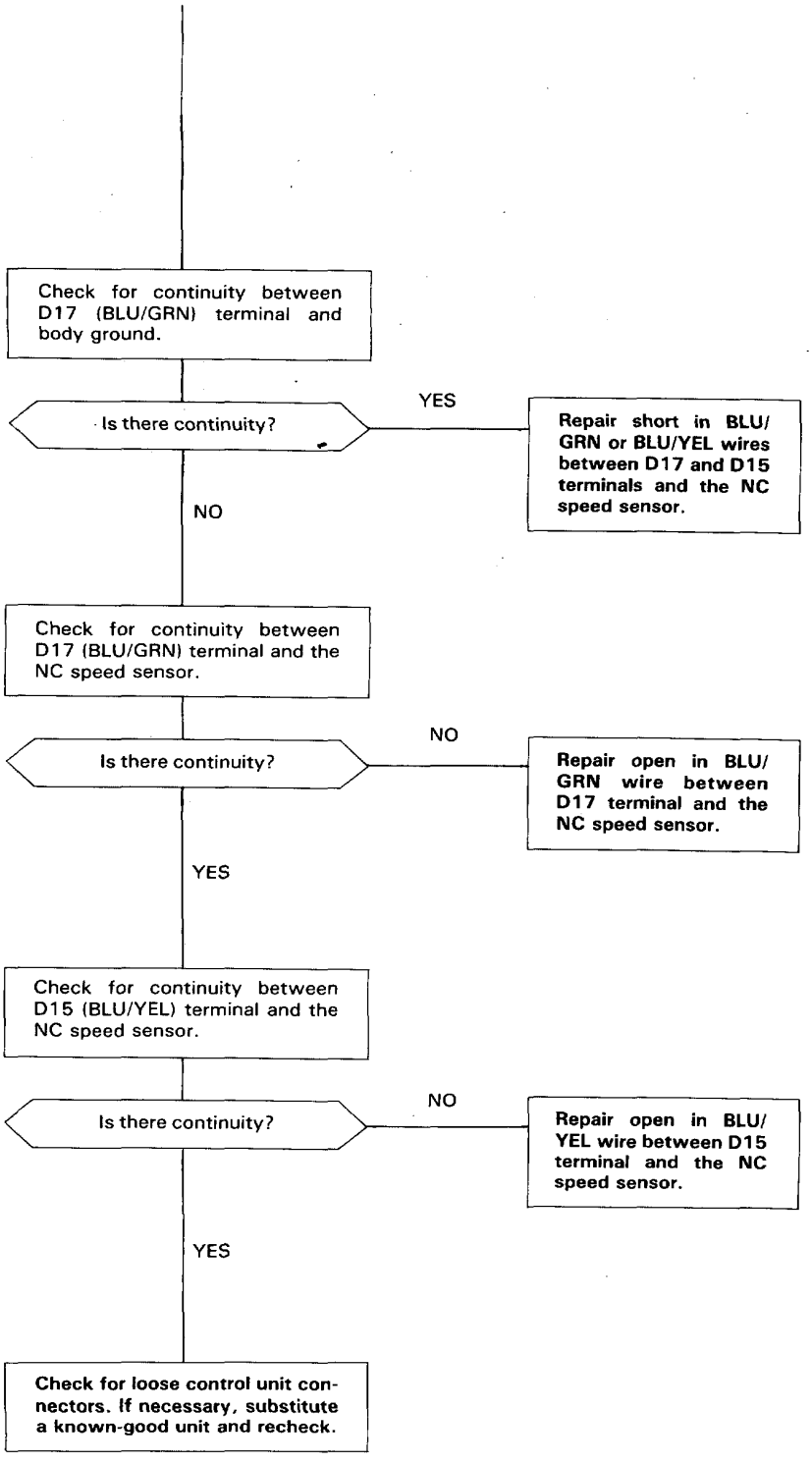

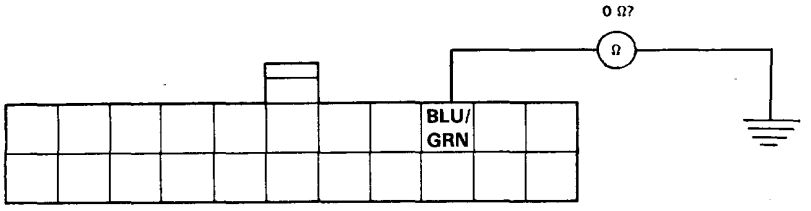

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Troubleshooting Flowchart (cont'd)

Inspection of the brake light signal.

Check that the brake lights come on with the brake pedal pushed.

Are brake lights ON? — NO → **Faulty brake light circuit.**

YES

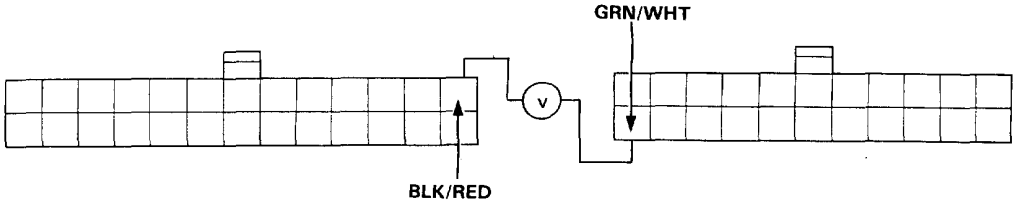
Disconnect the 26P and 22P connectors from the control unit.

Measure the voltage between D2 (GRN/WHT) and A25 (BLK/RED) terminal with the brake pedal pushed.

Is there battery voltage? — NO → **Repair open in (GRN/WHT) wire between D2 terminal and brake light switch.**

YES

Brake light signal OK.



Inspection of the A/C signal.

Start the engine.

Turn the blower switch ON.

Push the A/C switch ON.

Does A/C compressor clutch engage? NO → **See Air Conditioner inspection.**

YES

Stop the engine.

Disconnect the 26P connector from the control unit.

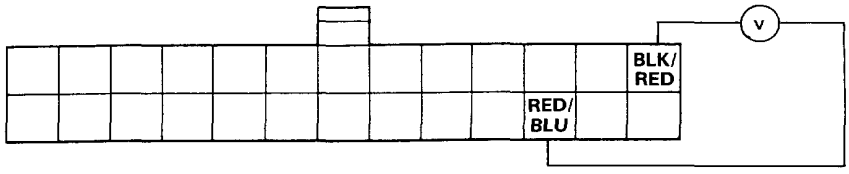
Start the engine.

Measure the voltage between A22 (RED/BLU) and A25 (BLK/RED) terminals. (A/C compressor OFF)

Is there battery voltage? NO → **Repair open in RED/BLU wire between A22 terminal and A/C clutch relay.**

YES

A/C signal is OK.



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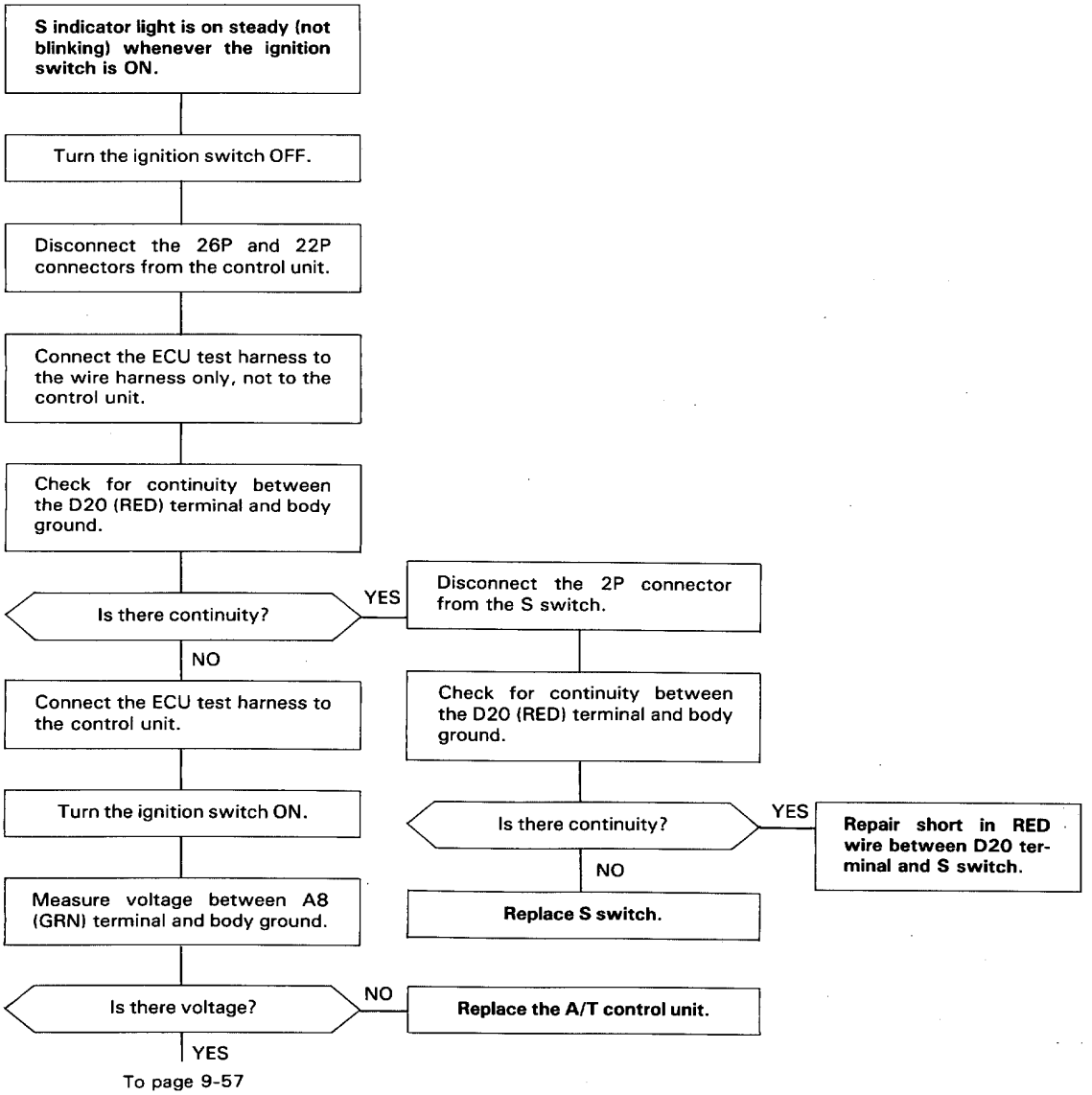
Troubleshooting Flowchart (cont'd)



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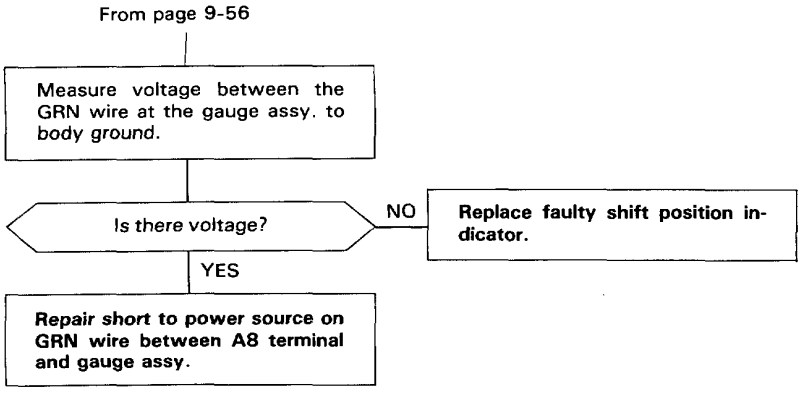
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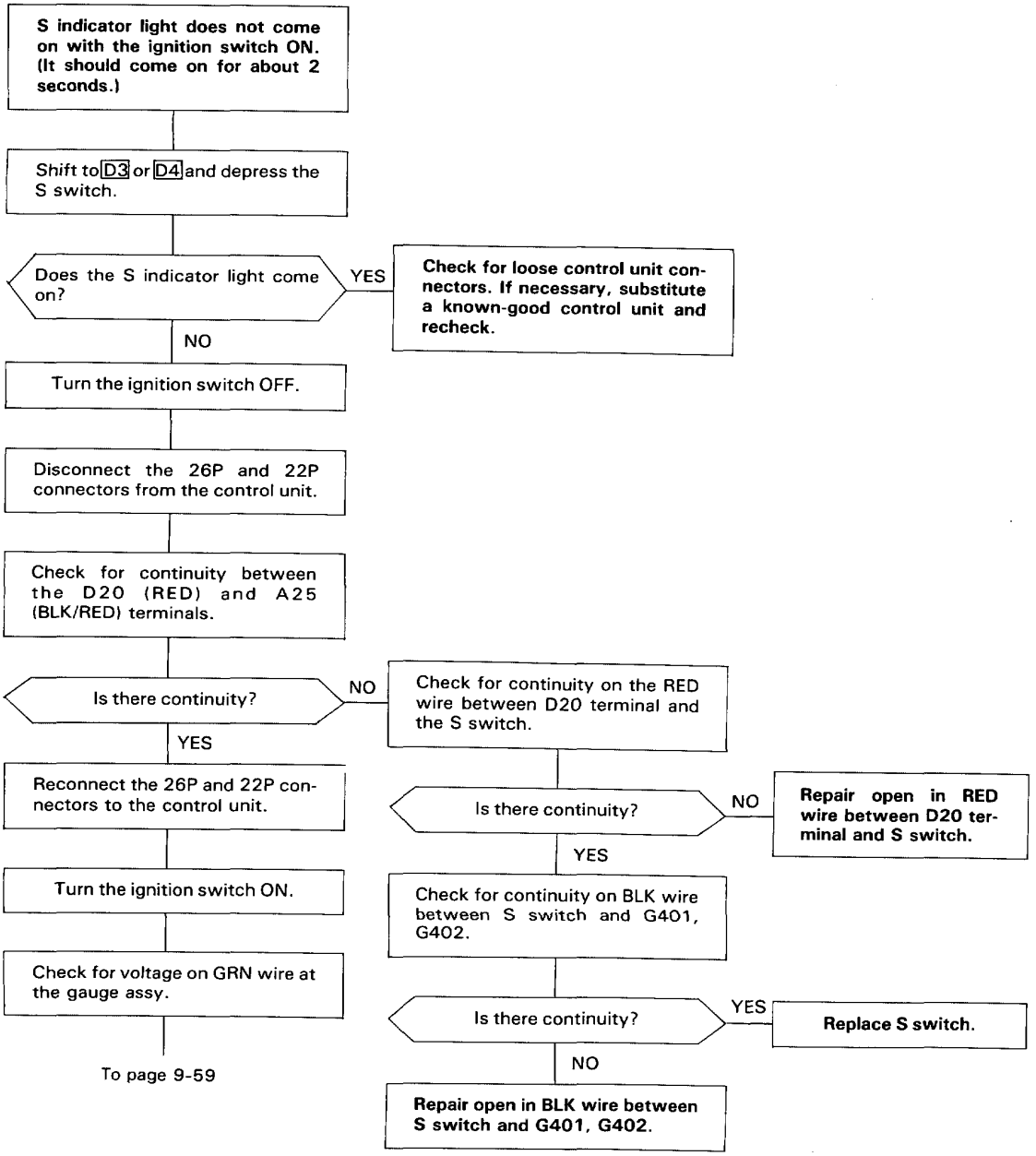
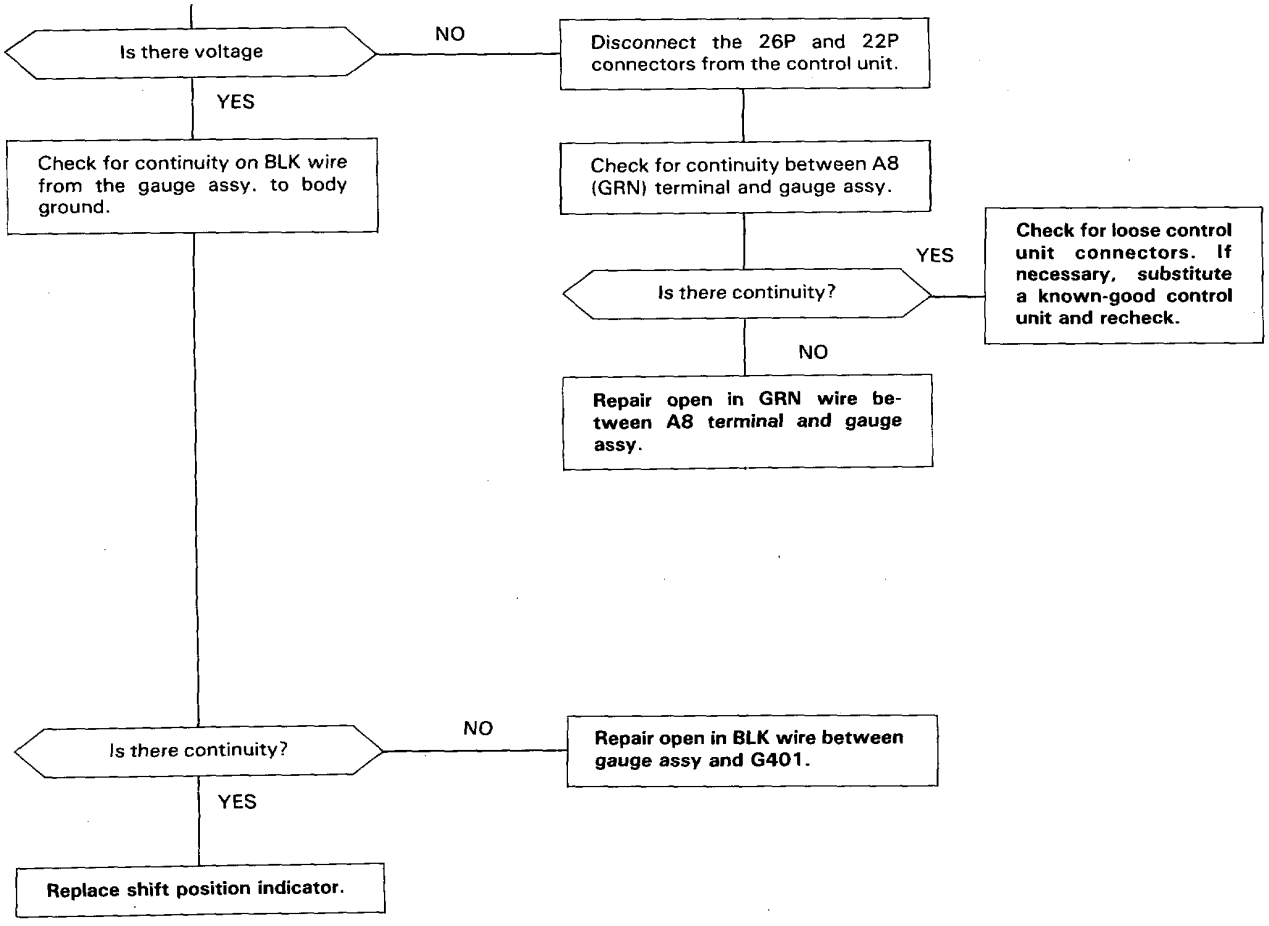
Measure voltage between the GRN wire at the gauge assy. to body ground.
Is there voltage?
NO
Replace faulty shift position indicator.
YES
Repair short to power source on GRN wire between A8 terminal and gauge assy.

(cont'd)

Troubleshooting Flowchart (cont'd)



From page 9-58



Lock-up Control Solenoid Valve A/B

Test

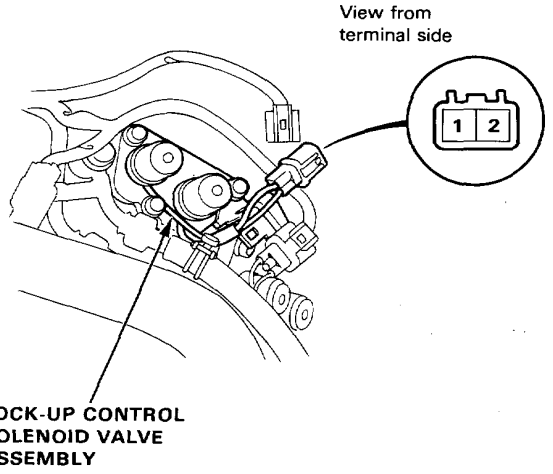
NOTE: Lock-up control solenoid valves A and B must be removed/replaced as an assembly.

1. Disconnect the connector from the lock-up control solenoid valve A/B.

   NOTE: Do not remove the lock-up control solenoid valve A/B stay.

2. Measure the resistance between the No.1 terminal (SOL. V A) of the lock-up control solenoid valve connector and body ground and between the No. 2 terminal (SOL. V B) and body ground.

   STANDARD: 14—16 Ω (25°C)



3. Replace the lock-up control solenoid valve assembly if the resistance is out of specification.

4. Connect the No.1 terminal of the lock-up control solenoid valve connector to the battery positive terminal. Connect the No.2 terminal to the battery positive terminal.
   A clicking sound should be heard each time the connection is made.

5. If not, check for continuity between the A/T control unit A24 or A25 harness and body ground. (page 9-30, 31).

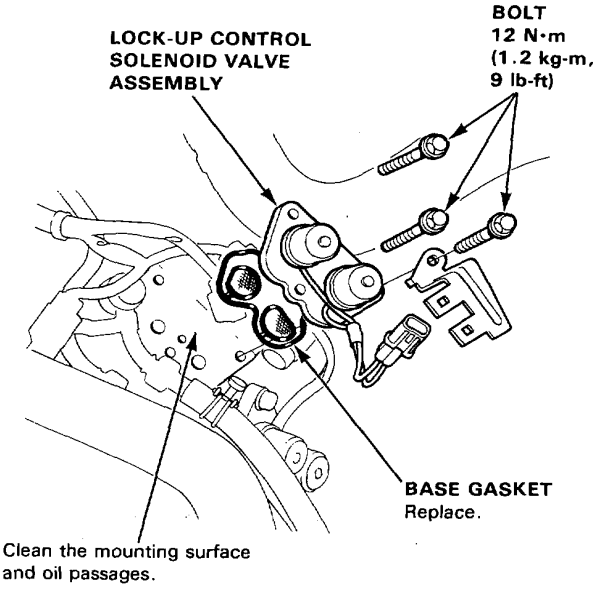
6. Replace the lock-up control solenoid valve assembly if there is continuity between the A/T control unit A 24 or A 25 harness and body ground. (page 9-30, 31)

Replacement

1. Remove the mounting bolts and lock-up control solenoid valve assembly.

   NOTE: Be sure to remove or replace the lock-up control solenoid valves A and B as an assembly.

2. Check the lock-up control solenoid valve oil passages for dust or dirt and replace as an assembly, if necessary.



3. Clean the mounting surface and oil passages of the lock-up control solenoid valve assembly and install a new base gasket.

4. Check the connector for rust, dirt or oil and reconnect it securely.